

**ABSTRACT**

Throxinyldimethylphosphinate was invented as a prodrug to stabilize thyroxine, a drug widely used to treat hypothyroidism and depression. The presence of the dimethylphosphinate group at the phenolic hydroxyl of thyroxine is key to preventing thyroxine from decomposing through the proposed pathway. The prodrug will be hydrolyzed in the stomach or the gut into thyroxine and the biologically inert dimethylphosphinic acid. Related products may be stabilized with the same or similar protecting groups.